

Appl. No. 10/634,457
Preliminary Amendment dated July 15, 2005

REMARKS:

Applicant appreciates the time and courtesies extended by the Examiner in the telephone communications of July 11 and 14, 2005.

Claims 20-33 are pending are pending in this application, with Claims 20, 26, 28 and 32 in independent format. Claims 1-19 have been previously canceled.

In a previous Office Action, Claims 20-33 were rejected under the judicially created doctrine of double patenting as being unpatentable over claims 1-49 of U.S. Patent No. 6,634,461. A Terminal Disclaimer under 37 C.F.R. § 1.321(c) was filed to overcome this rejection. Applicant hereby reaffirms the Terminal Disclaimer.

Claim 20 is an independent claim and calls for a wireless lift system for coordinated lifting of a structure and essentially comprising: first and second lift mechanisms; each lift mechanism including a vertical guide member, a carriage slidably engaged with the guide member and adapted to engage the structure; an actuator engaged between the carriage and the guide member; a controller coupled to the actuator and enabling selective activation of the actuator; and a rechargeable battery coupled to the actuator by the controller; a radio-frequency transceiver coupled to the controller to enable wireless communication between controllers of the lift mechanisms; and the controllers of the lift mechanisms enabling cooperation of the lift mechanisms by way of wireless

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communication between the controllers to thereby enable coordinated lifting or lowering of the structure.

Claim 26 is an amended independent claim. This claim is similar to claim 20 and specifies that each lift mechanism is manually movable, recites a hydraulic cylinder with a hydraulic pump (actuator), and recites a height sensor coupled to the controller of each lift mechanism and communicating a height signal to the controller corresponding to a location of the carriage along the guide member. Claim 26 includes a radio-frequency transceiver coupled to the controller to enable wireless communication between controllers of the lift mechanisms. Claim 26 has been amended to recite in paragraph (b) that the hydraulic cylinder is engaged between the guide member and the carriage instead of the support frame and the carriage, there being no antecedent basis for "support frame". It is believed that no new matter has been introduced by this amendment.

Claim 28 is an independent claim and calls for a method for controlling and powering lift mechanisms to coordinate lifting of a structure and comprising the steps of: providing first and second lift mechanisms, essentially as defined in Claim 20; engaging the carriage of each of the lift mechanisms with the structure to be lifted; selectively applying electrical power from the battery to the actuator; and communicating radio-frequency signals between the controllers of the lift mechanisms by way of the

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transceivers thereof to control selective application of electrical power to the actuators to thereby coordinate lifting of the structure.

Claim 32 is an independent claim similar to Claim 28 with the addition of a height sensor on each lift mechanism to provide a height signal to the controller corresponding to location of the carriage relative to the guide member.

In its Request for Continued Examination, Applicant filed form PTO/SB/08A citing PCT publication WO 92/19527 published on November 12, 1992 by Hutchinson Industries Limited of Auckland, New Zealand ("Hutchinson"). Reconsideration of the present application is respectfully requested in view of the remarks below.

Hutchinson is directed to a system for lifting a shipping container and including a plurality of lifting devices 1, each including a hydraulic cylinder 2 with a piston 35 (Fig. 3) forming an extendible leg to raise or lower the container 3. The lifting devices 1 are manipulated by a vehicle 45 comparable to a fork lift. The cylinder 2 of each lifting device is secured to the container by pegs 4 and 20. The cylinder is filled by a hydraulic pump 25, powered by a battery at 26/27 on each device 1. Hutchinson discloses that the devices 1 are operated "synchronously" to raise and lower a container, for example, to load a container onto a flatbed truck or to unload it therefrom.

Hutchinson discloses a preferred control arrangement in Figs. 17 and 18, involving one master unit and three slave units. A control switch box 59, presumably installed on

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the master unit, is hardwired to a set of control elements for each device 1, in the manner shown in Figs. 10-13, and including relays 60 and 61, a motor solenoid 62, a pump motor 63, a directional control valve 64, and solenoids 72. There are no feedback elements or control paths shown in 17 and 18, or otherwise disclosed in Hutchinson. Accordingly, the only available control actions for the disclosed Hutchinson device are up, down, or off. Thus, Hutchinson's use of the term "synchronous" in describing control of the lift devices 1 can only mean "simultaneous" control, and not the "coordinated" operation of the lift mechanisms specifically set forth in Claims 20-33.

In addition to control of the lifting devices 1 by electrical signals shown in Fig. 17, Hutchinson also mentions other means of directing a signal from the master unit to the slave units at page 2, lines 13-18, and involving "a light or radio signal or a vibration". The mention of these control methods, however, is merely speculative, since no details are provided regarding the light, radio, or vibration signals. Of the three alternative control schemes, Applicant notes that the use of light or "vibration" are the least likely to be practical and safe. The container is opaque, such that the use of light signals would require some means of conveying the light signals to all the slave units. Although Hutchinson discloses (at page 8, lines 30-34 and page 9, lines 1-2) the propagation of "vibrational signals" through the container, there is no suggestion of how such an arrangement would work. Even the use of radio signals might be a problem, if used in the

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unidirectional manner implied by "a broadcast signal receivable by each one of the apparatus" at page 2, lines 16-18. Because the lifting of shipping containers (or vehicles) involves significant hazard, an effective and safe control arrangement must assure that each lifting device actually receives the control signals as they are broadcast. The electrical continuity of a hardwired control arrangement as disclosed in Fig. 17 can provide such assurance, even in a one-way master-slave arrangement. However, a one-way control arrangement using radio, light, or vibrations, without feedback or handshaking of some sort, in which there is communication back and forth "between [said/the] controllers" as specifically set forth in each of Applicant's independent claims, does not effectively enable all units of the lift mechanism to operate simultaneously.

The Berends et al. 6,315,079 reference is cited in paragraph 0006 of the Background of the Invention of the present application. This reference discloses a coordinated lift system including a plurality of lift devices 3 with control boxes 14 interconnected by a wired CAN bus. The lift devices are operated in coordination by comparing the lifting height of each lift device.

Applicant urges that the mere mention of the use of radio signals in Hutchinson provides no practical teaching of how to apply a radio link to the type of coordinated lifting control arrangement shown in Berends and does not make Claims 20-33 obvious from a

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combination of Berends with Hutchinson. Applicant urges that Claims 20-33 should be allowable over any combination of Hutchinson with Berends.

In PTO form SB-08A filed concurrently with this amendment, Applicant cites U.S. Patent No. 4,777,798, issued to Jacobson et al. on October 18, 1988. Jacobson et al. was cited by Applicant in pending related application, Serial No. 10/902,684.

Jacobson is directed to a computer controlled, coordinated lift system including a plurality of lift actuators 20 and height sensors 22 which cooperate with a master controller 28 to lift a load 12 in a coordinated manner to maintain the load in a level orientation. The system includes control cables 26 connecting the controller 28 to remote control units 24 which control valves 32. There is no disclosure or suggestion of the use of radio control of the lifting mechanism.

Applicant urges that Claims 20-33 should also be allowable over any combination of Hutchinson, Berends, Jacobson or any of the other references of record.

In view of the amendments and remarks contained herein, it is respectfully submitted that claims 20-33 as amended are now in condition for allowance.

In the event that the Examiner is of the opinion that the prosecution of this application can be advanced thereby, he is invited to contact Applicant's attorneys at the telephone number listed below.

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Respectfully submitted,

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